

REMARKS

Claims 40-64 are pending in the present application. Each of the independent claims, claims 40, 49, 58 and 64 are amended. Support for the claims amendments is found at least in FIGS. 1 and 4, and in the specification at least in paragraphs [0021] – [0022].

Applicant has thoroughly reviewed the outstanding Office Action including the Examiner's remarks and the reference cited therein. The following remarks are believed to be fully responsive to the Office Action. All the pending claims at issue are believed to be patentable over the cited references.

35 U.S.C. § 103 (a)

Claims 40-64

Claims 40-64 are rejected under 35 U.S.C. §103(a) over Hood (U.S. Patent No. 5,935,143). The Office Action indicates that while Hood does not teach first and second straight portions angled with respect to each other and with respect to the body axis, it is conventional to angle straight portions of the cutting edges as claimed, and obvious to angle the straight portions of the Hood cutting edge for purposes of better adapting the tool to cut specific structure. The Applicant respectfully traverses this rejection, in view of the following remarks.

Claim 40

The Applicant respectfully submits that is not obvious from the teaching of Hood to arrive at the Applicant's combination, as recited in Claim 40. Since Hood discloses an ultrasonic surgical tool and the considerations that go into designing an ultrasonic surgical tool are different from the considerations that go into designing an ultrasonic blade for cutting composite material, one of ordinary skill would not look at the surgical knife in Hood and think there were obvious modifications that could be made to the knife which would yield a reasonable expectation of success for cutting composite material.

In fact, Hood teaches away from a smooth cutting edge, and gives an indication of undesirability of such a configuration. Hood states that a "straight-edged" ultrasonic knife blade" is disadvantageous because it will "slip through tissue...and sever tissue not intended to be cut." (Col.7, lines 58-65). Hood goes further and teaches that more teeth are better. ("It is

understood that the effect of mechanical cutting increases as the number of teeth, which pass over a particular tissue bond during each stroke, increases.” Col. 7, lines 30-32).

In contrast, claim 40 is amended to recite that the “profile of the cutting edge is substantially smooth and substantially facet free.” Thus, since Hood teaches away from this limitation, the Applicant submits that claim 40 is nonobvious over Hood. Therefore, it is respectfully requested that the rejection under 35 U.S.C. § 103(a) of claim 40 and claims 41-48 which depend therefrom be withdrawn.

Accordingly, claim 40 is submitted to be in condition for allowance. Also, since claims which depend from allowable claims are also allowable, the Applicants submit that claims 41-48 which depend from claim 40 are also in condition for allowance.

Claim 42

Further, with respect to claim 42, the Applicant submits that claim 42 is nonobvious over Hood for the following additional reasons.

Hood indicates that a blade with a short tapered tip is undesirable and that longer sharper tapers are favorable. As shown in FIG. 4 of Hood, and in col. 6, lines 66-67 – col. 7, lines 1-9, Hood discloses that the taper 42 is desirably in a range “between about 3° and about 45°”, and more preferably about 8° in order to have a longer and sharper taper. Hood cautions that shorter tapers are undesirable because a “short taper, such as 45 degrees, would provide a duller blade generating more cavitation, drag and hemostasis.” As marked on FIG. 4, the angle of the taper is measured from the horizontal line drawn between the reference numerals 42 and 38.

In the embodiment recited in Claim 42, the claims recites that the taper “the first straight portion and second straight portion are angled back towards the blade body at about 30° relative to a line perpendicular from the body axis.” Look for example at angle D in FIG. 1. That angle is about 30° from the line perpendicular to the horizontal line, but looking at the complimentary angle, as measured from the horizontal, which is same line used in Hood, the angle is about 60°.

Thus, since Hood teaches away from short taper angles of 45 degrees or greater, and the embodiment of claim 42 teaches an angle greater than 45°, Hood teaches away from the embodiment recited in claim 42. Thus, one of ordinary skill in the art would not think it obvious to arrive at the Applicant’s invention as recited in claim 42 from looking at the teaching of Hood.

In view of the foregoing remarks, the Applicant respectfully submits that claim 42 has an independent basis for allowability from claim 40, and is therefore in condition for allowance for

this reason. Accordingly, withdrawal of the rejection of claim 42 under 35 U.S.C. § 103(a) is earnestly solicited.

Claim 49

Similarly to claim 40, independent claim 49 includes the same amended limitation of claim 40. Specifically, claim 49 recites that the “profile of the cutting edge is substantially smooth and substantially facet free.”

For the same reasons stated above, in support of the nonobviousness of claim 40 over Hood, independent claim 49 is submitted also to be allowable over Hood. Additionally, since claims which depend from an allowable claim are also in condition for allowance, claims 50-57 which depend from claim 49 are also submitted to be in condition for allowance. Therefore, withdrawal of the rejection of claims 50-57 under 35 U.S.C. § 103(a) in view of Hood is earnestly solicited.

Claim 58

Similarly to claim 40, independent claim 58 includes the same limitation of claim 40. Specifically, claim 58 recites “profile of the cutting edge is substantially smooth and substantially facet free.”

For the same reasons stated above, in support of the lack of anticipation and nonobviousness of claim 40 over Hood, independent claim 58 is also submitted to be allowable over Hood. Additionally, since claims which depend from an allowable claim are also in condition for allowance, claims 59-63 which depend from claim 58 are also submitted to be in condition for allowance. Therefore, withdrawal of the rejection of claims 59-63 under 35 U.S.C. § 103(a) in view of Hood is earnestly solicited.

Claim 64

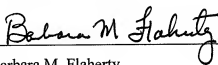
Finally, independent claim 64 also includes the same features of the amended limitation of claim 40 discussed above. Specifically, claim 64 recites that the “profile of the cutting edge is substantially smooth and substantially facet free.”

For the same reasons stated above, in support of the allowability of claim 40 over Hood, independent claim 64 is also submitted to be in condition for allowance. Therefore, withdrawal of the rejection of claim 64 under 35 U.S.C. § 103(a) in view of Hood is earnestly solicited.

Conclusion

All rejection and objections having been addressed, it is submitted that the above-identified application is in condition for allowance. An early and favorable action on the merits is respectfully requested. The Commissioner is authorized to charge the one-month extension of time fee to Deposit Account 50-2036. If the Commissioner deems it necessary, please charge any deficiency or credit any overpayment to Deposit Account 50-2036, referencing attorney docket no. 5165.1460.

Respectfully submitted,


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